Blue, White and Red Warehouses.[80] *See, e.g.,* Salinas Dep., 100:11-102:21.

B. APE Burned "Off-Specification" Fireworks On Site

APE burned damaged, defective or otherwise unsafe fireworks ("off-specification" fireworks) on the 160-acre parcel in Rialto from 1989 until at least 1993, if not later. Cartagena Dep., 48:20–50:7; Ex. 10354 at USEPA003203-3204; Wilson Dep., 147:10-148:4. A majority of the off-specification fireworks that were burned had been returned by customers after the Fourth of July but damaged during the return process. Cartagena Dep., 62:4-11; Mergil Dep., 234:25-236:10. Witnesses have testified that the return process was "a mess", as boxes full of fireworks were thrown off of trailers with loose powder spewing out. Mergil Dep., 157:8-158:19; 234:25-236:10. Some fireworks imported from Asia were also received in poor condition, and other fireworks were damaged while being handled at the facility. Cartagena Dep., 62:12-16. Loose powder that had leaked out of fireworks items being handled in APE's warehouses was also burned on-site; this material was placed in designated boxes (which included duds and other material to be burned), or into a bucket, and sent to Building 51, where it was stored until taken to the burn area for disposal.[81] Cartagena Dep., 137:5-24, 138:3-20; Mergil Dep., 256:18-257:8; Hescox Dep., 522:8-13.

APE burned material on the northern portion of the property, in Fire Zone 2, at the same location Pyrotronics began using in 1968. *See supra* Section IV. Material was burned inside a section of large diameter (*i.e.*, around four feet) concrete pipe (the "Burn Pipe") laying horizontal near or on a cement pad which had been the floor of a press room destroyed in a 1968 explosion (it is not clear when the pipe was added to the burn location). Cartagena Dep., 48:20-24; 63:1-8 and Ex. 994., 129:21-23, 130:1-12; Ex. 10354 at USEPA003203-3204 and USEPA003338; Wilson Dep., 56:21-58:17;

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[80] These warehouses are also used for the "repackaging" of returned fireworks and the assembly of fireworks assortments for sale to consumers. Wilson Dep., 112:24-114:21; 122:1-8; 122:13-22; 123:7-9.

[81] As discussed below, after APE ceased burning such material, these boxes were kept in Building 51 indefinitely to await transport to an off-site location.

Salinas Dep., 56:13-57:25; 58:4-6. A cage, with a door to allow the insertion of material, was also built to house flying debris during the burns. Mergil Dep., 143:15-145:15; Cartagena Dep., 130:9-12; Mergil Dep., 230:25-231:10.

Several boxes[82] containing off-specification fireworks would be placed into the Burn Pipe; then an employee would "toss a fireworks" (which were often loose "fountains") into the pipe to light the fire and "run" away from the pipe to avoid harm. Mergil Dep., 143:15-145:15, 229:11-231:16; Cartagena Dep., 63:24-64:10; 449:25-452:12. As the fire burned, additional boxes would be thrown into the pipe. Mergil Dep., 229:11-24, 230:18-21, 231:4-232:8. Videotapes of burning in this location by APE show it to be a haphazard practice generating sparks and ashes. Ex. 11219.

After a burn, the residue and ash that remained was swept up and put into 55-gallon drums,[83] which were taken to the Mid-Valley Landfill in Rialto for disposal. Mergil Dep., 147:12-148:14; 232:14-23; 233:4-10; 233:13-20; 255:16-19; 260:1-16, 260:21-25, 265:13-17. Next, the Burn Pipe was hosed out with water. Mergil Dep., 349:13-350:3; Cartagena Dep., 129:8-13, 21-25, 130:1-2. Evidence conflicts as to whether this wash water ran into a sump or simply remained in the pipe and the burn area until it dried up. Mergil Dep., 350:5-7, Cartagena Dep., 131:13-16. Before the workers went home, water was also applied to the smoldering ashes that remained in the pipe at the end of the day, to ensure the material "was well-enough saturated so there was no more fire hazard." Cartagena Dep., 214:12-215:11; 454:22-455:9.

APE generally burned material at this location at least once or twice a month, depending on the weather, with three to five boxes typically burned each time. Mergil Dep., 258:9-25; Cartagena Dep., 120:5-9 (frequency of burns "all depended on the weather."). Weather permitting, burns might be conducted several times a week during

[82] Cardboard boxes to be sent to the Burn Pipe were sealed with red tape; which differentiated them from boxes containing usable merchandise. Cartagena Dep., 85:1-15. These boxes, which were approximately 18" x 20", were stored in Building 51. Cartagena Dep., 85:16-25; 451:12-22.

[83] When the drums were returned from the dump, they were also washed out with a hose at the Burn Pipe location. Mergil Dep., 261:14-262:2.

September through November, as there was always material on hand to be burned after the fireworks season in July. Cartagena Dep., 120:10-24. The sizes of the boxes varied, and so the weight of the material burned was estimated and recorded. *Id.*; Mergil Dep., 229:13-19.

APE's burning of off-specification fireworks was sanctioned by both the City of Rialto Fire Department and the SCAQMD, and documentary evidence indicates that a substantial amount of waste material was burned during this time period. Exs. 10168, 10167, 10173, 10174, 10175, 10176, 10180, 10182, 10184, 10185, 10186, 10191, 10226, 10227, 10230, 10231, 10232, 10233; Mergil Dep., 122:22-123:6; 135:15-136:7, 125:17-126:6. During his tenure, Mr. Mergil was responsible for notifying the fire department prior to conducting burns on site, and he would call the City of Rialto Fire Department to notify it that a burn was going to take place after ensuring with the airport that it was not too windy for a burn to go forward. Mergil Dep., 348:6-25.

Consultants working for APE sampled the Burn Pipe location in 2003-2004 and detected perchlorate.

C. APE Regularly Tests Consumer Fireworks at the Rialto Facility

APE and its predecessors have routinely tested consumer fireworks in Rialto since Pyrodyne purchased RDF Holdings' consumer fireworks assets in 1989. To this day, APE continues to conduct these tests on a steel table, placed on top of three or four wooden pallets in an unpaved, gravel area located behind the main office on APE's leasehold.[84] Cartagena Dep., 164:11-23; Vanderford Dep., 113:22-114:8; 114:14-17; 114:22-23; 116:4-7; 116:16-21; Wilson Dep., 38:5-13 40:10-41:14; 43:24-44:8; 44:19-24; Ex. 10964; Salinas Dep., 40:21-42:12; 42:10-12; Ex. 11000. The vast majority of these fireworks contain potassium perchlorate. According to a document prepared by APE

[84] At one time, fireworks were also tested near the Burn Pipe. Mergil Dep., 170:15-171:1; Cartagena Dep., 165:2-4 ("We did a little testing at the burn site."). Mr. Mergil testified that he tested fireworks near the Burn Pipe when he had significant amount of testing to complete; otherwise he tested fireworks at the location behind the main office described above. Mergil Dep., 170:3-8, 170:15-172:2.

and included in APE's Response to EPA's Section 104(e) Information Request, 71 out of the 82 different fireworks items tested by APE in 2002 contained potassium perchlorate in varying percentages as high as 98.68%. Ex. 10354 at USEPA003332-333.

Joanne Vanderford, who had primary responsibility for APE's consumer fireworks testing from 1995 until approximately 2006, testified that fireworks were tested from September through May of each year and at least once every other week, although during peak season fireworks could be tested more than once per week and for up to five hours per day. Vanderford Dep., 32:18-33:25, 233:24-234:6. Noree Salinas took over Ms. Vanderford's testing responsibilities in or around 2006; she testified that a portion of each fireworks shipment APE received was tested, except for items that had already been tested, with shipments arriving in Rialto between September and April. Salinas Dep., 44:24-45:24; 48:2-15. Multiple witnesses have testified that APE always tested items imported from China within ten days of their receipt and before any were distributed to consumers. Vanderford Dep., 166:10-19; Cartagena Dep., 55:15-25 (each batch of fireworks received from China was tested); Cartagena Dep., 86:12-13 (fireworks usually tested within a couple days of receiving a shipment); Mergil Dep., 168:24-169:1, 173:16-19 (during Mr. Mergil's tenure, under the auspices of Red Devil/Pyrodyne, fireworks imported from China were tested "[e]very time a shipment came in.").

No specified amount of each shipment was tested, and it appears that the frequency of testing has varied over the years. During Ms. Cartagena's tenure, APE's policy was to test each item that was received; and she typically tested 12 pieces from each shipment. If there were problems, 12 more were tested; if the problems persisted, even more would be tested. Cartagena Dep., 165:13-21, 167:14-16. According to Ms. Vanderford, the number of tests varied with the items received. New items were tested at the standard level; items that had passed previous tests received less scrutiny; and items that had failed in the past were subject to more rigorous testing. Vanderford Dep., 208:24-209:4. Ms. Salinas testified that she retains discretion with respect to the amount of each item she tests, and views her testing as a quality control check of testing now

done by the AFSL in China before products are sent to the United States. Salinas Dep., 55:5-56:3; *see also* Wilson Dep., 223:6-16 (Because fireworks are now tested by the AFSL before being sent from China, APE has reduced the frequency of testing in Rialto). After internal testing by APE, items were sent to Sacramento for testing by the State Fire Marshall before being sold to consumers. Vanderford Dep., 238:25-239:5.

Videos of fireworks testing at APE in the late 1990s reveal it to be a dirty process that generates sparks, ash and other debris, with ashes swept from the test stand onto the bare ground below. Exs. 10304, 10300, 10310, 10314. The spent firework item that remains after a test is placed in a 55-gallon drum to cool down, and then put in the regular trash for disposal at the "local dump" – the San Bernardino Mid-Valley landfill adjacent to the facility. Wilson Dep., 41:15-21, 241:16-243:2; Salinas Dep., 44:6-23; 200:25-202:1. Residue and ash resulting from the testing is also placed in the above-mentioned drum for disposal in the regular trash. Wilson Dep., 42:2-7, 43:2-12.

Items that failed testing were pulled out of one of the regular storage warehouses and transported by forklift to Building 51, where they were maintained while the RFD sought approval to burn them. Cartagena Dep., 86:12-17, 88:6-8; 169:4-19. But "most of the time we did not have a burn permit so we could not even burn in there. So we just stored it in Building 51." *Id.* The storage of such material in Building 51 is further discussed below.

To date, APE's consumer fireworks test site has not been sampled for perchlorate.

D. APE's Accumulation of Off-Specification Fireworks and Floor Sweepings in Building 51

APE has acknowledged that it now stores fireworks that are damaged, defective, wet, failed testing, or are otherwise unusable ("off-specification" fireworks) in Building 51, and that it has done so since at least 1994. Ex. 10354 at USEPA003200-201; Cartagena Dep., 86:12-17, 88:6-8; 623:20-624:22; see also Cunard Dep., 511:14-25.

Similarly, sweepings[85] collected from the warehouse floors are placed into boxes located at the end of the bay door of each warehouse, and these boxes are also taken to Building 51 to await disposal.[86] Salinas Dep., 114:2-116:5; Wilson Dep., 144:22-145:18; Cartagena Dep., 137:5-24, 138:3-20; Mergil Dep., 256:18-257:8; Hescox Dep., 522:8-13. Off-specification fireworks from APE's Norwalk facility have also been sent to Rialto for storage in Building 51 on at least one occasion to await "disposition of the bad product."[87] Cartagena Dep., 579:18-580:1. Because APE has not been permitted to burn this material since approximately 1994, it now sits in Building 51 for extended periods of time with no regular plan for its ultimate disposal,[88] and it is unclear what has happened, or will happen, to some of this hazardous material.

There is evidence that APE shipped off-specification material held in Building 51 to California City, California, to be disposed of in a large burn held by the State Fire Marshall on November 7, 1998[89], and that off-specification material was similarly sent to a burn at the city dump in Santa Maria, California in November 1995. Exs. 10354 at USEPA003204, 1120; Cartagena Dep., 176:5-21, 401:12-17 (one truckload of APE merchandise taken to Santa Maria). Records indicate that APE sent ***40,570 pounds*** of

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[85] These sweepings can contain perchlorate, as, for example, witnesses have testified that loose fireworks powder fell onto the floor of the warehouses while arrangements were being prepared for sale. Mergil Dep., 162:13-163:9.

[86] According to the current plant manager, Ms. Salinas, APE had about four or five of these boxes in Building 51 in January 2007. Salinas Dep., 116:11-13; 116:16-117:4.

[87] Ms. Cartagena did not know who decided to send such material from Norwalk to Rialto, but she was unhappy about it because she did not "want problems" and "all duds are problems." Cartagena Dep., 580:23-581:14.

[88] For example, APE's current warehouse manager testified that she does not know what APE intends to do with certain illegal fireworks, "rework items", and/or damaged or defective fireworks currently maintained by APE in Building 51. Salinas Dep., 133:6-134:2; 135:6-17; 136:15-22

[89] Prior to this burn, APE was "crying about the fact that we could not burn no longer on the property for quite some time", and material was therefore accumulating in Building 51 because AQMD would not allow open burning. Cartagena Dep., 415:20-25, 416:7-16. The shipment to California City consisted of all fireworks for which APE had authorization to burn, as well all damaged product on hand, although it did not completely empty Building 51. Cartagena Dep., 418:8-21. After the burn, such material began to accumulate again. Cartagena Dep., 420:17-19.

consumer fireworks (1,885 cases) to the burn in California City. Ex. 10466. APE also returned several shipping containers with defective fireworks back to the manufacturer in China; with estimates ranging from two containers to eleven. Cartagena Dep., 176:5-21. These shipments were apparently sent in between the California City and Santa Maria burns. Cartagena Dep., 464:13-465:1.

Ms. Cartagena, who was APE's plant manager from 1989 through 2002, testified that aside from the material sent to California City, Santa Maria or China, a substantial portion of the remaining off-specification material simply sat indefinitely in Building 51, which housed "years" of defective fireworks product. Cartagena Dep., 177:11-20. Some of the off-specification material was burned during that time period, but not a large amount. Cartagena Dep., 176:5-25. When Ms. Cartagena left APE in 2002, Building 51 – which measures 4,000 square feet – was eighty percent full with accumulated defective fireworks. Cartagena Dep., 177:21-178:22.

APE employees have testified that in 2005 APE sent six to seven truckloads of material from Building 51 to APE - East's headquarters in Florence, Alabama. But there appears to be no written record of the contents of these shipments, which were sent without a hazardous waste manifest and therefore constituted an unlawful transport of hazardous wastes. Salinas Dep., 137:11-20; 139:15-18; 139:24-140:15; Wilson Dep., 86:25-88:7. Even Ms. Salinas, who oversaw the loading of material from Building 51 onto the Florence-bound trucks, was unaware of exactly what type of material was being shipped. Salinas Dep., 137:22-138:7; 141:18-142:4. It is unclear what was done with this material after its arrival in Alabama. Salinas Dep., 143:16-18; Wilson Dep., 88:8-10. As of February 8, 2007, there had not been a single off-site transport of material from Building 51 since the shipment that was sent to Florence, Alabama in 2005, although off-specification material has since continued to accumulate. Wilson Dep., 88:18-89:6; 90:16-24; Wilson Dep., 145:14-146:3; 146:6-19; Salinas Dep., 145:3-12.

E. Allegations That Ms. Cartagena Intentionally Buried Drums On the 160-acre Parcel

On June 11, 2002, an anonymous individual informed the Regional Board that he had been directed by Ms. Cartagena to bury forty drums containing fireworks waste material (including perchlorate) at the 160-acre parcel in 1982. Ex. 10463 (Affidavit in Support of Search Warrant). Kenneth Ayers of the County of San Bernardino District Attorney's Office investigated this allegation and ultimately submitted an Affidavit in support of a search warrant seeking to locate these drums. A search warrant was issued by the San Bernardino Superior Court on November 5, 2002. *Id.;* Ex. 11234. According to the informant, the drums were buried because Apollo was closing and needed to get rid of its accumulated waste. *Id.*

Mr. Ayers spoke with Ms. Cartagena on multiple occasions during his investigation, and she told him that if the drums were buried at the property they would have to be located behind the old maintenance building, as water hydrants and water lines would preclude burial in other locations. Cartagena Dep., 334:20-335:11, 345:22-349:14; Exs. 10435, 10460. The alleged burial site identified by the informant (as stated in the Affidavit) was in the same location described by Ms. Cartagena; however, the County searched this location and could not locate any drums. Cartagena Dep., 340:8-341:4; Wilson Dep., 131:3-132:17; 136:3-16; Salinas Dep., 166:8-17; 167:13-20; 167:24-168:1; 169:24-170:1.

Ms. Cartagena testified that she knew nothing about the alleged incident and had never ordered anyone to bury drums. Cartagena Dep., 337:1-5, 352:13. Mr. Mergil, who was also interviewed by Mr. Ayers as part of the investigation,[90] stated that he was not personally aware of any drums being buried, but had heard that employees at one time had discovered drums which must have been buried at an earlier time, although he had

[90] Ms. Cartagena told Mr. Ayers that the only person she felt might fit the limited description provided of the individual who allegedly ordered the drums to be buried – someone employed by Apollo for fifteen to eighteen years – was Pedro Mergil. Cartagena Dep., 350:24-351:15.

not seen them and did not know what happened to them. No other witness has come forward with information pertaining to the allegations of intentionally buried drums at the 160-acre parcel.[91]

The buried drums uncovered by Ken Thompson's contractors in 1987 while excavating for his building have never been correlated by the County of San Bernardino, the City of Rialto or the Regional Board with the allegations of buried drums at the facility.

VIII. DISPOSAL OF CONFISCATED FIREWORKS BROUGHT TO THE 160-ACRE PARCEL BY THE CITY, COUNTY, AND STATE

Included among the off-specification fireworks that have been stored and disposed of through open burning on the 160-acre parcel are confiscated fireworks sent to the 160-acre parcel by officials from the City of Rialto (including the Fire and Police Departments), the California State Fire Marshall, and the County of San Bernardino.

Several witnesses have confirmed that confiscated fireworks brought to the facility by City officials were disposed of in the Fireworks Burn Pit. Apel Dep., 288:5-21; Shilling Dep., 414:2-11, 414:15-21; 416:18-25. On one occasion, an entire truckload of confiscated fireworks brought to the 160-acre parcel by the City were burned at the Fireworks Burn Pit. Apel Dep., 288:5-21. The City of Rialto Fire Department also brought confiscated fireworks that were burned at the Burn Pipe. Mergil Dep., 250:3-11. Mr. Mergil testified that a uniformed fire marshal from the City of Rialto Fire Department would drive onto the facility in an City of Rialto Fire Department pickup truck to arrange for the burning of confiscated fireworks; which were contained in boxes marked to indicate that they contained "illegal fireworks from fire department." Mergil Dep., 250:18-251:16, 251:24-252:13, 253:10-254:24. Boxes designated as such were then stored in

[91] A July 18, 1987 letter from C.H.J. Incorporated to Ken Thompson indicates that during sub-excavation operations on the southern portion of the 160-acre parcel, "deteriorated metal barrels were uncovered", and that the soil was stained and a distinct smell was present in that area. The letter indicated that the County Department of Environmental Health and the RFD were notified, and that no determination had yet been made regarding the content of the substance in the drums. Ex. 11121.

Building 51 on-site (along with other off-specification fireworks and pyrotechnic powder), before they were apparently taken to the Burn Pipe for disposal.[92] *Id.*, Mergil Dep., 255:16-256:12. Confiscated fireworks included Roman Candles and bottle rockets. Mergil Dep., 315:9-12, 319:9-16.

According to Enselmo Gutierrez of the City of Rialto Fire Prevention Department, Mr. Mergil picked up confiscated fireworks from the City of Rialto Fire Department (as well as those confiscated by the Rialto Police Department), and took them back to Red Devil's facility for storage; records show that material from these Departments was later disposed in the Fireworks Burn Pit.[93] Gutierrez Dep., 146:19-156:12; 163:19-164:13; Ex. 10689; *see also* Shilling Dep., 416:18-25 (recalling conversations with Mr. Mergil about his receiving confiscated fireworks from the City of Rialto). For example, on December 14, 1998, Red Devil records indicate that it burned confiscated fireworks from the Rialto Police and Fire Departments. Cartagena Dep., 118:1-7 and Ex. 1000; see also Mergil Dep., 115:10-23.

There is also evidence that on several occasions the State Fire Marshall's office sent confiscated fireworks to the Pyrotronics facility for disposal. Hescox Dep., 342:24–343:1-6, 343:13-22; 346:10–347:21; 465:12–466:7. Recently, in or around 2005, seized and confiscated merchandise from the State Fire Marshall's office, in cooperation with the County, was sent to APE's facility to be stored in Building 51. This was apparently done due to DTSC's refusal to allow disposal by burning anywhere in California, and the confiscated fireworks are therefore awaiting shipment to an off-site disposal location which may include Florence, Alabama. Trout Dep., 281:7-284:8; *see also* Salinas Dep., 133:6-18; 205:1-8 (confiscated fireworks from the fire or sheriff department of Los

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[92] Though unequivocal about the fact that the RFD brought confiscated fireworks to the Rialto facility which were then stored in Building 51, Mr. Mergil did express some uncertainty as to whether or not these fireworks were ultimately burned on-site. Mergil Dep., 315:13-20.

[93] According to Mr. Gutierrez, Chief McVeitty made the decision that confiscated fireworks should be turned over to Red Devil for handling. Gutierrez Dep., 161:21-162:16.

Angeles or San Bernardino County are currently stored in Building 51).[94]

IX. COUNTY OF SAN BERNARDINO AND ROBERTSON'S READY MIX

In 1999, two years after the discovery of perchlorate in the Rialto/Colton Groundwater Basin (Saremi Dep., 71:17-72:3), the Regional Board staff approved a soil washing operation on the former bunker area previously used by fireworks companies for the storage of pyrotechnic materials including oxidizers. Ex. 20325 (CAO No. R8-2003-0013 at 2). This project proposed by the County and its contractor Robertson's Ready Mix ("Robertson's") in connection with its expansion of the County's landfill. The County, through Robertson's, proposed a massive excavation project which included soil washing and the installation of four unlined settling ponds, each 200' x 250' to 350' x 10' with a capacity of 13 million gallons. Ex. 20083 (May 20, 1999 letter from Mr. Roberts to Ms. Lass).

The direct causal connection between the mobilization of massive amounts of perchlorate to the groundwater and the millions of gallons of water discharged to the settling ponds was confirmed by Mr. Thibeault during his March 16, 2007 deposition:

> Q. Do you have an opinion sitting here today whether or not it [the settling ponds] caused perchlorate to reach the groundwater underneath it?
>
> A. Yes.
>
> Q. And what is your opinion?
>
> A. I believe that the wash water from the aggregate operation mobilized perchlorate in the subsurface and pushed it down towards the groundwater.

Thibeault Dep., 59:24-60:6.

At first, Mr. Thibeault denied in his deposition that either the Regional Board or his staff even had any jurisdiction over the settling ponds:

> Q. And in connection with that [the permitting of the settling ponds], what investigation, if any did, the

[94] APE's current plant manager testified that APE is trying to sell certain illegal fireworks that are not legal in California and that are stored in Building 51 in Texas, where she indicated they are legal.

regional board staff conduct prior to allowing that gravel washing operation to take place?

A. Well, I think I testified to you that we don't - - I don't think we have a permitting jurisdiction.

Id. at 60:8-13. But when confronted with the July 6, 1999 letter from Ms. Lass, a Regional Board staff member, approving Robertson's request for Regional Board approval of the unlined settling ponds, Mr. Thibeault was forced to agree that Ms. Lass, on behalf of the Regional Board staff, authorized Robertson's to place the four ponds directly over historical bunker areas where it was known that fireworks manufacturers had stored materials and products containing perchlorate. Ex. 20084. He was also forced to acknowledge that Ms. Lass approved Robertson's request that these ponds be unlined. Thibeault Dep., 452:22-454:4, Ex. 20084. Indeed, Ms. Lass's letter to Robertson's unambiguously provided: "After careful review, we [Regional Board staff] have determined that the proposed project should not have any negative impact on water quality at the landfill." Ex. 20084.

Extraordinarily, this action by the Regional Board staff was taken without a public hearing, without the approval of the appointed members of the Regional Board, without the imposition of any waste discharge requirements, and without requiring confirmation that the soil in the bunker area underlying the proposed ponds did not contain perchlorate or any other hazardous material. Thibeault Dep., 435:18-438:22.

On March 14, 2001, less than two years after Regional Board staff authorized the construction of the four unlined settling ponds, the County wrote Ms. Lass a letter which advised that perchlorate was being detected in ever increasing numbers in a monitoring well immediately down gradient of the ponds. Ex. 20349. In that letter, the county reported the following increasing perchlorate concentrations:

April 2000	1.9 ppb
July 2000	10 ppb
October 2000	51 ppb
January 2001	250 ppb

Id. The County's letter asked for a prompt response. *Id.*

One month later, on April 17, 2001, the County wrote Ms. Lass a second letter which restated its concern about the "serious nature" of the rising perchlorate concentrations in a monitoring well down gradient of Robertson's settling ponds and urged prompt action:

> The County . . . is writing this letter to advise the Regional Water Quality Control Board (RWQCB) that the concentrations of perchlorate have continued to rise in samples obtained from groundwater monitoring well F-6 at the Mid-Valley Sanitary Landfill (BVSL). Retest analyses . . . confirm that the concentration of perchlorate in groundwater samples obtained in January 2001 ranged from about 250 to 270 micrograms per liter (ug/l). Before the latest detections, perchlorate was measured at 51 ug/l on October 2000.
>
> * * *
>
> The [County's] SWMD is currently arranging meetings to discuss the current conditions with the aggregate processing contractor, and would like to meet with the RWQCB staff as soon as possible to discuss the same subject. . . . Please be assured that [County's] SWMD recognizes the serious nature of the current data and is committed to investigating the source of the impacts at well F-6.

Ex. 20101.

More than a year later, on September 26, 2002, within days of the Regional Board's order rescinding for lack of proof Mr. Thibeault's CAO R8-2002-051 which sought to place all responsibility and liability for the perchlorate release to the Rialto/Colton Basin on Kwikset and Goodrich, Mr. Thibeault ordered the County to investigate the releases of perchlorate to the groundwater (then at a concentration of 800 ppb) mobilized by Robertson's settling ponds. What had heretofore remained hidden by the Advocacy Team was suddenly disclosed; the County had become the staff's new target. Mr. Thibeault wrote:

> The evidence indicates that the bunkers adjacent to the MVSL [Mid-Valley Sanitary Landfill] were used for storing explosives, ordinance, propellant, and pyrotechnic chemicals (including perchlorate salts), on property that now belongs to the County. . . . In addition, gravel washing operations on county property may have contributed to mobilization or spread of perchlorate. Perchlorate has been detected in groundwater in groundwater downgradient of the County's

> properties (the former bunker area, and the MVSL) . . . [in] concentrations in excess of 800 ppb.

Ex. 20385 (September 26, 2002 letter from Mr. Thibeault to Mr. Miller at 2).

In January 2003, Mr. Thibeault issued CAO R8-2003-0013 which required the County to clean up the perchlorate contamination coming from its property where the settling ponds were located. What had been known by the Advocacy Team since at least April 2001, now was suddenly crystal clear: "it is evident that perchlorate is being discharged to groundwater from property that is currently owned by the County." Ex. 20325 (CAO R8-2003-0013 at 3). By January 2003, the monitoring well down gradient of the settling ponds reported a concentration of 1,000 ppb of perchlorate. Ex. 20325 (CAO R8-2003-0013 at 3).

When asked if he ever investigated the actions of his staff in connection with their permitting the unlined settling ponds, Mr. Thibeault testified that because the County had assumed responsibility for the release there was no need to deal with "those kind of issues":

> Q. Did you ever direct any investigation to take place with regard to how it came to be that these settlement ponds were allowed to go in unlined over bunker areas where there had been historical uses of perchlorate, which everyone now believes is the major source, if not the sole source, of the . . . western plume?
>
> A. Given that the County was very cooperative in addressing the effects of their discharge and they were doing a great job in – both characterizing the plume and remediating the plume and providing replacement water, we didn't feel it was necessary to go back in and deal with those kind of issues.

Thibeault Dep., 452:3-15.

Later, during cross-examination, Mr. Thibeault changed this testimony, admitting he talked with his staff about the issue but maintained that he did not know about Ms. Lass's written approval of the unlined settling ponds:

> Q. My question is to you, why hasn't the executive officer of the regional board, who has responsibility for ensuring the integrity and healthfulness of the groundwater – why haven't you undertaken an investigation of your staff . . . so that it

won't happen again?

A. Well, you're assuming that I didn't.

Objection omitted

Q. Did you do that?

A. We have talked internally about the need to – to be looking for this kind of material in the future, yes.

Q. And who did you talk to specifically?

A. All of the staff that are involved with these kinds of activities.

Q. Were you angry about that?

A. Was I angry. No.

Q. You weren't angry over the fact that your staff had allowed the pond to go forward with inadequate characterization of the soil under the pond which resulted in the discharge of -- I think the right word is massive quantities of perchlorate to the groundwater that have severely impacted its beneficial uses?

A. Okay. Well, first of all, this is the first time I've seen this letter I can recall.

Id. at 459:6-460:9. Finally, Mr. Thibeault conceded that his staff's actions negligently caused the County Release:

Q. And Dixie Lass' letter of June 6, 1999 permitted . . . this settling pond operation to go forward, which resulted in significant quantities of perchlorate being released to the groundwater; isn't that correct?

A. Yes.

Q. And so in that sense the mistakes that were made in connection with allowing this to happen . . . were the reason it happened isn't that correct?

* * *

A. Allowed it to happen, yes.

Id., 456:24-457:20.

Q. . . . Isn't it the case, Mr. Thibeault, that every discharge to groundwater in your jurisdiction is something of concern to the staff and the regional board itself?

A. Yes.

Q. And any proposed discharge to the groundwater requires careful investigation to determine whether or not it's potentially harmful to the beneficial uses; isn't that correct?

A. Yes.

Q. And that wasn't done here, was it?

A. It wasn't careful enough.

Id., at 463:7-18.

X. THE REGIONAL BOARD'S DECISION TO PROSECUTE GOODRICH

In 1997, the Regional Board requested that its staff perform an investigation into the perchlorate contamination in the Rialto/Colton Basin. Saremi Dep., 72:6-23. Mr. Saremi, a Regional Board staff member, was given the task of conducting this investigation, but in the next five years Mr. Saremi's only attempt to identify persons potentially responsible for the perchlorate contamination in the Rialto area was a single trip to the Rialto Historical Society, which yielded a four page report, only one and half pages of which discussed Goodrich's operations in Rialto. Saremi Dep., 475:9-21. Indeed from 1997 to 2002, Mr. Saremi chose not to review any of the Regional Board files pertaining to the 160-acre site, including the McLaughlin Pit, and he did not drive to the 160-acre site, where he surely would have observed the evidence of Pyrotronics/Apollo's historical operations and APE's current operations. Saremi Dep., 85:8-88:8, 101:9-14.

After five years of this so-called investigation, the Regional Board staff had either failed, or chosen not, to discover any evidence regarding Pyrotronics/Apollo's operations, which, as demonstrated above, (1) involved the use of large amounts of perchlorate, (2) resulted in multiple fires and explosions on the 160-acre site, and (3) required the Regional Board staff's oversight in closing a swimming pool full of pyrotechnic material, including perchlorate, only ten years earlier.

Apparently frustrated with years of inaction by the Regional Board staff, on May 23, 2002, Senator Nell Soto wrote Mr. Thibeault, the Regional Board's Executive Officer,

asking a number of pointed questions concerning the lack of progress by his staff in its investigation and cleanup of perchlorate in the Rialto/Colton Groundwater Basin. Ex. 20067. Senator Soto's letter specifically referenced the recently released GeoLogic Report prepared by the County and which identified various potential sources of perchlorate contamination and asked, among other questions: (1) what facilities is the Regional Board aware of as the result of its investigation, other than Goodrich and Kwikset, that are possible sources of perchlorate in the groundwater (Question 5); and (2), referencing the GeoLogic Report, "***[w]hat effort had been made by the RWQCB to correlate the operations of Red Devil Fireworks*** and Broco/Denova to perchlorate contamination?" (Question 6.). Ex. 20067 at 2-3 (emphasis added).

On June 6, 2002, Mr. Thibeault, in response to Senator Soto's Question 5, advised the Senator that the Regional Board staff was unaware of any potential sources of perchlorate contamination other than Goodrich and Kwikset:

> We are not aware of any other facilities in the vicinity of the site that have been identified as having used perchlorate, or that were subject to a related regulatory enforcement action in the past. In addition, our investigation concluded that Goodrich and Kwikset are the most likely sources of perchlorate based on the time period they operated.

Ex. 20058 at 4. And in response to Question 6, Mr. Thibeault wrote:

> We have not yet pursued additional detailed investigations to correlate operations at Red Devil and Broco/Denova to perchlorate contamination. This is because ***the preliminary information we have indicates that these facilities may not be likely sources.*** However, we will attempt to obtain additional information on these sites. ***It appears that the assembly, storage and shipping of fireworks, and not necessarily the manufacture of fireworks, which is the type of activity that likely would have resulted in a release of perchlorate. We have no evidence of disposal or use of perchlorate at the current Pyro Spectacular facility.*** Based on our experience in this region, and the information obtained from perchlorate groundwater investigations that have been conducted outside of our region, it is apparent that solid rocket propellant manufacture and research facilities have generally been the primary sources of perchlorate forum in groundwater.

Id. at 5 (emphasis added). These statements were both false and misleading.

Mr. Berchtold conceded, in his deposition, that in 2002 there was information in the Regional Board's files that demonstrated that Pyrotronics/Apollo manufactured fireworks on the 160-acre site and that they disposed of significant quantities of pyrotechnic waste in the swimming pool also referred to as the McLaughlin Pit. Berchtold Dep., 328:7-20. Mr. Thibeault similarly admitted during his deposition that evidence regarding the fireworks and gravel washing operations were in his files at this time:

> Q. And so in 2002, the regional board had in its files highly relevant information about the discharge of perchlorate caused by a fireworks manufacturer; is that correct?
>
> A. Yes.

Thibeault Dep., 146:1-5. Further, Mr. Berchtold testified that he ***personally witnessed*** several violations of Pyrotronics/Apollo's waste discharge requirements regarding the McLaughlin Pit, and on one occasion when Mr. Berchtold was inspecting the Pit, he noted there was no freeboard on the Pit and that, due to rainfall, the Pit had actually overflowed on to the surrounding area. Berchtold Dep., 153:11-14, 176:3-25, 179:4-17; *see also* Berchtold Dep., 164:10-175:20 (descriptions of other Pyrotronics/Apollo WDR violations). Contrary to Mr. Thibeault's representations to Senator Soto in 2002, the Regional Board staff was actually intimately aware of "other facilities in the vicinity of the site that have been identified as having used perchlorate." Ex. 20058 (June 6, 2002 Letter from Mr. Thibeault to Senator Soto).

Nevertheless, Mr. Thibeault did not report to Senator Soto that he, Mr. Berchtold, and Mr. Holub, all current members of the Advocacy Team, had been aware for many years of Pyrotronics/Apollo's fireworks ***manufacturing*** operations on the 160-Acre Site, ***the disposal*** of thousands of gallons of Class 1 hazardous wastes at the McLaughlin Pit that contained perchlorate, and his and his staff's decision to allow its closure without compliance with Subchapter 15 of the State Water Board's regulations.

Moreover, Mr. Thibeault made no reference to the County's soil washing operation even though more than a year before Mr. Thibeault's June 6, 2002 letter to

Senator Soto, the County reported to Ms. Lass rising concentrations of perchlorate (250-270 ppb in January 2001) in a monitoring well downgradient of Robertson's aggregate washing operations and settling ponds, and urged prompt action. Ex. 20349 (March 14, 2001 letter from Mr. Rivera to Ms. Lass). Nor did Mr. Thibeault mention that his staff had approved the settling ponds without liners or that in his opinion his staff had negligently caused this release. Thibeault Dep., 456:24-457:20, 463:7-18.

Mr. Thibeault's omission of these critical facts regarding confirmed sources of perchlorate contamination in the Rialto area is especially troubling given that the Regional Board's own files are the best evidence of the 16 years of fireworks manufacturing and disposal practices on the 160-Acre Site. Even if the Regional Board staff members somehow forgot their personal involvement with the McLaughlin Pit and the gravel washing operations by June 2002 when Mr. Thibeault (with his staff's assistance) wrote Senator Soto, certainly, those memories were refreshed by the evidence provided in the April 2002 GeoLogic Report, which identified numerous possible sources of the alleged contamination, including Pyrotronics/Apollo's manufacturing operations and the McLaughlin Pit. Ex. 20068 (April 2002 Environmental Audit Report).

On June 8, 2002, Mr. Thibeault, Mr. Berchtold, Mr. Holub, Ms. Sturdivant, and Mr. Saremi, all members of the Advocacy Team, met with Senator Soto and her staff to discuss the progress of their investigation. During this meeting, Senator Soto expressed outrage at the Regional Board staff's failure to timely identify the parties responsible for the Rialto area's perchlorate contamination and even threatened to have Mr. Thibeault fired because of the lack of progress by the staff. Saremi Dep., 110:25-113:9; Ex. 20074 (e-mail from Mr. Thibeault to Regional Board). On June 11, 2002, Mr. Thibeault wrote a detailed e-mail to the members of the Santa Ana Regional Board summarizing his meeting with Senator Soto, including her threats to have him fired:

> The Senator said that she was thinking of going to the Governor and ask why he had me working for the Board, since I obviously didn't know what I was doing. She said that

> she was going to get to the bottom of this matter, and if necessary, she would hold Senate hearings.

Ex. 20074 at 1. Mr. Thibeault confirmed at his deposition that he felt threatened by the Senator's comments. Thibeault Dep., 191:11-22.

In his e-mail to the members of the Regional Board, Mr. Thibeault attempted to deflect attention from the evidence regarding the McLaughlin Pit in the GeoLogic Report, which, if examined, would lead directly back to staff negligence. He wrote that:

> [It] added very little to what [staff] already knew of responsible parties. . . [and that while] . . . [t]here have been a number of fireworks manufacturers at the site since Goodrich left, but information to date indicates that these were just fireworks assembly companies, and that no actually [sic] manufacturing took place where perchlorate-containing liquids would have been present.

Ex. 20074 at 2. This statement was demonstrably false, as Pyrotronics/Apollo was one of the largest manufacturers in the 1970s and 1980s of fireworks in the United States. Mr. Thibeault then continued: "[w]e are still looking into this, but there simply is not enough (or any) information that would stand reasonable scrutiny in naming any of these operators yet." *Id.* The record is clearly to the contrary; as demonstrated above, the Regional Board staff was, at this time, in possession of extensive evidence relating to Pyrotronics/Apollo's Rialto operations. *See* Berchtold Dep., 81:12-16 (staff did not inform the Regional Board of Pyrotronics' operations or its use and disposal of perchlorate at the 160-acre site).

Further, in the most telling section of the email to the Regional Board, Mr. Thibeault cautioned that if the fireworks companies were now pursued it might "muddy the waters" of his purported case against Goodrich and Kwikset:

> It's not yet a dead issue, in fact, as a result of the articles I sent to you today, a former fireworks company employee wants to meet with staff. However, we didn't want to muddy the waters and possibly give Goodrich or Kwikset a reason to delay the work we are requiring of them.

Ex. 20074. This quote indicates that the staff had made a decision to focus its efforts on Goodrich and Kwikset, and no amount of evidence pointing to other parties would be

permitted to affect their case against Goodrich and Kwikset.

Shortly thereafter, Goodrich and Kwikset were charged by the Advocacy Team, led by Mr. Thibeault, in CAO R8-2002-0051 ("2002 CAO") as the persons responsible under Section 13304 for the perchlorate in the Rialto/Colton Groundwater Basin. With respect to Goodrich, this order was based on one supporting piece of evidence, the one and a half page document that Mr. Saremi obtained from the Rialto Historical Society. Saremi Dep., 76:15-77:13. By the 2002 CAO, the Advocacy Team sought to compel Goodrich and Kwikset to investigate and cleanup the entire basin, and required nothing of other parties such as Pyrotronics/Apollo, Ken Thompson, Inc., or the County. Ex. 11114 (2002 CAO). The Regional Board, however, ordered the 2002 CAO rescinded because the Advocacy Team could not prove its allegations against Goodrich and Kwikset. Ex. 11202 (Resolution No. R8-2003-0070).

XI. THE REGIONAL BOARD STAFF AND THE CITY OF RIALTO REFUSE TO PROSECUTE KEN THOMPSON, INC.

Strangely, Ken Thompson, Inc., who owns the property where the McLaughlin Pit is located and who agreed in 1987 to fully and properly close and clean up any releases from the McLaughlin Pit, has never been required by the Regional Board or the City of Rialto to do anything and has never been the subject of a cleanup and abatement order. In paragraph 7 of its deed, Ken Thompson, Inc. agreed:

> Buyer shall take property subject to covenants, conditions and restrictions of record agreeable to Buyer which would restrict Buyer, its heirs and assigns, from objecting to Seller, its heirs and assigns, manufacturing and storing of fireworks, munitions, volatile matter or related items.
>
> ***Buyer agrees to indemnify and hold seller harmless for any and all requirements of Federal, State and local municipalities for any requirements for on-site or off-site improvements necessary to comply with development of Parcels 10 and 11 of Parcel Map 7173 or otherwise, and Buyer is fully responsible for all Federal, State and local government requirements*** . . . . Buyer covenants to comply with all City and State standards and requirements in order to develop the subject parcels.
>
> Buyer is aware that the subject property contains a fireworks residual pit of hazardous material, and Buyer is in possession of a letter dated January 26, 1987 from McLaughlin Enterprises outlining

> an approach for the clean up of the fireworks residual pit. Buyer and Seller [Pyrotronics] agree that seller shall credit to Buyer by a reduction in Buyer's note created in this escrow the sum of 29,800 in consideration of ***Buyer's full and complete release of all Seller's responsibilities related to the fireworks residual pit.***

Ex. 11116 (Escrow instructions 4, 6, & 7) (emphasis added); *see also* Ex. 11215 (Pyrotronics' Motion to Sell Real Property at 5).

The Regional Board staff is well aware of the effect of this deed and Ken Thompson, Inc.'s subsequent responsibility for Pyrotronics/Apollo's use of the McLaughlin Pit, as it sent Ken Thompson, Inc. an investigation order on February 6, 2004 based on Pyrotronics/Apollo's prior use of the property. Ex. 11115. And the documents attached to the Regional Board's February 6, 2004 order under California Water Code Section 13267 further indicated that it was based on Pyrotronics/Apollo's former operations: "Excerpts from Pyrotronics 1985 Hazardous Materials Disclosure Form includes the use of 25,000+ pounds per month of potassium perchlorate." Ex. 11115 at 3 and enclosure 3. Moreover, an August 1987 Regional Board Inspection Report acknowledges that: "Apollo no longer owns the concrete waste pit. They sold the property to Western Pre-Cast Products, Inc. [Ken Thompson, Inc.]. Western Pre-Cast Products [Ken Thompson, Inc.] assumed the investigation and cleanup of the [pit] when they bought the property from Apollo." Ex. 10370 at 2.

Although Ken Thompson, Inc., as the owner of the property on which the McLaughlin Pit resides and the party who specifically took responsibility for its closure, is the most logical candidate to both compel future work and seek recovery of past costs from, the Regional Board staff inexplicably refuses to pursue Ken Thompson, Inc. After receiving the February 2004 work order, Mr. Cowden, a representative of Ken Thompson, Inc., sent a letter to Mr. Thibeault, indicating that he was "shocked to the bone" that the Regional Board staff was requiring Ken Thompson, Inc. to conduct an investigation. Ex. 20077. In response, after well over a year had passed since ordering

Ken Thompson, Inc. to conduct an investigation,[95] Mr. Thibeault assured Mr. Cowden that ***nothing*** would be required of Ken Thompson, Inc.:

> [T]he Regional Board will pursue the former owners and operators responsible for the past discharges, including Goodrich, Emhart and Pyro Spectaculars, to perform this work. At this time the only necessary participation by Rialto Concrete Products[/ Ken Thompson, Inc.] in this work would be to provide reasonable access to its property.

Ex. 20078 (July 8, 2005 letter from Mr. Thibeault to Mr. Cowden at 2). Despite Ken Thompson, Inc.'s express assumption of responsibility for the McLaughlin Pit, this letter apparently discouraged the Regional Board staff from requiring Ken Thompson, Inc. to complete the closure of the McLaughlin Pit, including any necessary corrective action, as Ken Thompson, Inc. had already promised it would do.

Similar to the Regional Board staff's inexplicable failure to prosecute Ken Thompson, Inc., the City of Rialto also has apparently no interest in pursuing Ken Thompson, Inc. Rialto initially sued Ken Thompson, Inc., along with other defendants and alleged dischargers, in federal court in 2004. Ex. 11224 (Rialto's First Amended and Supplemental Complaint). Then, when Ken Thompson, Inc.'s agent, Mr. Cowden, wrote simply that "we are doing everything possible to help in this matter" to the Rialto City Attorney, Robert Owen (Ex. 11218 (Email between Mr. Cowden and Mr. Owen)), the City of Rialto dismissed Ken Thompson, Inc. Ex. 11222 (Rialto's Second Amended and Supplemental Complaint). Ken Thompson, Inc. is a "potentially responsible party" under CERCLA and has wholly failed to complete the key environmental mitigation measure that the City imposed on him in 1987 as a condition to begin grading the site for his project—full and complete closure of the McLaughlin Pit. *See* 42 U.S.C. § 9607(a). Further, according to Mr. Thompson, Ken Thompson, Inc. did not agree to do anything

[95] Mr. Thibeault's July 8, 2005 letter indicated that Mr. Cowden had a conversation with Mr. Berchtold regarding Ken Thompson, Inc.'s environmental liability, but there is no indication as to what was said during that conversation. Ex. 20078 at 1. Further, Mr. Thompson testified that he, along with representatives from his company, participated in a meeting with Regional Board staff, but aside from Mr. Thompson's testimony that he was upset at the meeting and that he discussed providing access to his property, it is unclear what transpired at this meeting. Thompson Dep., 159:4-165:6.

for the City of Rialto nor did it give anything to the City of Rialto in return for its dismissal; it appears that the City of Rialto simply decided that it would rather not seek recovery from the facially liable Ken Thompson, Inc. Thompson Dep., 172:20-174:16.

XII. THE PROPOSED CAO FAILS TO ADDRESS RIALTO AMMUNITION STORAGE POINT AS A SOURCE OF CONTAMINATION

The Notice of Hearing states that one of the purposes of the hearing is to permit relevant testimony and evidence and hear legal arguments and policy statements concerning legal responsibility for site investigation and remediation. This section addresses the activities by the United States Department of Defense ("DOD") at the Rialto Ammunition Storage Point ("RASP") that is highly likely a source of perchlorate and trichloroethylene ("TCE") contamination in the Rialto-Colton Basin, which the Advocacy Staff is attributing to Goodrich. The State Board should find DOD in violation of the Regional Board's directive of October 24, 2002 and order it to comply.

A. Location and Extent of RASP Site

The RASP covered 2,822.15 acres of land within what is now the northern limits of the City of Rialto, San Bernardino County, California.[96] "Final Report Operational History 1941-1945 Rialto Ammunition Backup Storage Point" ("Corps Report"), Ex. 20270, 2-1. The facility location is seven miles northwest of the City of San Bernardino and north-northeast of the City of Fontana, in San Bernardino County; bounded by Linden Avenue (east), Riverside Avenue (north), Sierra Avenue (west), and Highland Avenue (south); and in parts of Sections 17, 20, 21, 28, and 29 of Township 1 North, Range 5 West, San Bernardino Base and Meridian. *Id.* The existing central business district of the City of Rialto is located just east of the former RASP site. *Id.* Remnants of the RASP can still be found in Rialto today, including former berms from

[96] The RASP site was also referred to as (1) the "Rialto Ammunition Back-up Storage Point," (2) "Fontana Ammunition Storage Point," (3) "Ammunition Back-up Storage Facility, Rialto," (4) "Ammunition Back-up Storage Facility, Fontana," (5) "Los Angeles Ammunition Back-up Storage Facility," (6) "Los Angeles Ordnance Depot," (7) "Los Angeles Back-up Storage Facility," and (8) "Rialto Military Reservation." Ex. 20270, p. 1-1.

railroad car staging area spurs on the 160-acre parcel, which was located entirely within the RASP, and concrete ordnance storage igloos southwest of the 160-acre parcel, most of which were demolished in the 1990's by the County of San Bernardino for the expansion of the Mid-Valley Landfill.

B. History of RASP Site

The United States acquired the land for the RASP over the course of 1941 and 1942. Corps Report, Ex. 20270, ES-1. Approximately 740 acres of the RASP site were subsequently developed by the Department of the Army to serve as an ammunition storage location to support operations in the China-Burma-India Theatre of War. Corps Report, Ex. 20270, p. 1-2. The Army began construction of the RASP facilities in February 1942. Corps Report, Ex. 20270, 3-1. On November 16, 1942, the RASP was activated. Corps Report, Ex. 20270, p. 3-1. Operations at the RASP site continued through World War II until September 1945. Corps Report, Ex. 20270, 3-1.

The RASP site was used as the location for the staging of railcars and storage munitions, fuses and explosives prior to being shipped off to the Pacific Theater during World War II from the Port of Los Angeles. Corps Report, Ex. 20270, p. 3-9. The RASP was necessitated by the limitations on the number of railcars and amount of munitions that could be safely staged at the Victory Pier at the Los Angeles Port of Embarkation. Corps Report, Ex. 20270, 3-9. According to the Standard Operating Procedure (SOP) for explosives handling at the Los Angeles Port of Embarkation, all railcars were to be routed through the RASP site except in the case of military necessity. Corps Report, Ex. 20270, App. B, p. 7.

Approximately 320,000 tons of ordnance were stored at the RASP site before being shipped from the Port of Los Angeles. Ex. 20270, p. 3-27. In 1943, an average of 248 railcars per month, or about 8 per day, passed through the RASP site. (Corps Report, Ex. 20270, p. 3-26.) At times, the volume of railcars per month significantly exceeded this average, as the Corps Report documents that 461 railcars were received at the RASP site in March 1944. Ex. 20270, p. 3-26. Based on the 1943 average of 248

railcars per month, over 8,000 railcars would have passed through the RASP site during its nearly three years of operation.

The configuration of the RASP is depicted in the General Layout Plan prepared by the U.S. Army Real Estate Division in 1946 prior to sale of the property. (General Layout Plan, Ex. 20104; Ex. 20270, p. 3-4. Improvements to the RASP site made by the military included 20 ordnance concrete storage "igloos"; 40 bunkers for storage of ordnance-loaded railcars; four magazines for storage of fuses and explosives; facilities for railcar maintenance and repair, including a locomotive shop; an incinerator; and seven underground storage tanks.[97] Ex. 20104 (General Layout Plan); Ex. 20270, p. 3-8. The 20 earthen-covered concrete "igloos" were each 26 feet, 6 inches wide and 81 feet deep. Ex. 20270, p. 3-4. The 20 igloos and four storage magazines collectively encompassed approximately 37,200 square feet. Ex. 20270, p. 3-26.

The operations at the RASP also included the inspection of railcars for conditions of the contents and to detect attempts at sabotage; repair and maintenance of locomotives and railcars; recoopering damaged bracing and dunnage; consolidation of partial shipments; and receipt and dispatch of railcars. Ex. 20104 (General Layout Plant); Ex. 20270 (Corp. Report) p. 3-11. The RASP site was also used to store ammunition used by troops of the Army Ground Forces training at the Desert Training Center in the Mojave Desert. Ex. 20270 (Corps Report) p. 1-2.

The RASP site operations did not merely involve the "pass through" of railroad cars, but also involved the staging of the railroad cars and handling and disposal of munitions. Some of the railcars passing through the RASP had the cargo (*i.e.*, ordnance) unloaded into the igloos until being reloaded for shipment to the Port.[98] Documents indicate that as many as nine railcars per month were unloaded. Ex. 2-265

[97] The Corps Report states that the City of Rialto removed one tank, four were removed by "others," and Ecology Control Industries, under contract to the U.S. Army Corps of Engineers, removed the remaining two storage tanks in 2000. Ex. 20270, p. 3-27.

[98] The Corps Report makes no effort to explain why the military would construct the 20 storage igloos and four magazines for fuzes and explosives (over 37,000 square feet of space) if it did not intend to unload railcars and store munitions at the RASP site.

(Rialto Ammunition Back-up Storage Point, Historical Report for Month of December, 1943). The Army's SOP suggests that unloading of railcars was a regular occurrence. For example, the SOP notes that the construction of additional igloos would "increase the ammunition storage capacity of this installation." Ex. 20270, App. B, p. 8. Moreover, not only were munitions stored in the igloos, but often for extended periods. *Id.*, 13.

C. The DOD has violated Regional Board Orders

On October 24, 2002, pursuant to Water Code Section 13267, the Regional Board issued a "Directive to Submit a Work Plan and Conduct Perchlorate Investigation in the Vicinity of the Former Rialto Ammunitions Storage Point, City of Rialto, San Bernardino County, California" ("RB Directive"). Ex. 20272, p. 1. The RB Directive was issued by the Regional Board, which concluded that "evidence indicates that the U.S. Department of the Army constructed storage 'igloos' and concrete underground bunkers for storing fuse and power magazines, explosives, and ordnance, which are likely to have contained perchlorate salts." Ex. 20272, p. 2.

While it did not comply with the RB Directive, in January 2004, the Corps belatedly submitted the Corps Report, describing aspects of the operational history at the RASP site. While the Corps Report confirms certain information concerning the military's operations at the RASP, much of it is unsupported and self-serving. Moreover, the Corps Report presents only a selected portion of the information gathered by DOD, as it was released subject to a limited waiver of a claimed attorney work product privilege, and was based primarily on accounts from an individual who spent minimal time (perhaps a few hours) at the RASP site during the entire period of operation. Ex. 20270, p. [intro letter].

The Regional Board responded to the Corps Report by letter dated July 29, 2004, finding the Corps Report to be "incomplete."[99] Ex. 20273 ("RB Letter on Corps Report")

[99] A number of factors support the Regional Board's dispute of the findings of the Corps Report. First, the Corps Report relies extensively on the recollection of Robert K. Weyand, Captain, Ordnance Department in the United States Army, who had almost no

The Regional Board also stated that it had reviewed records provided by the City of Rialto that included the following information: (1) approximately 200,000 tons of explosives, ordnance, and ammunition moved through the RASP over a three year period; (2) An estimated 5% of the 200,000 tons (or 10,000 tons or 20 million pounds) of military products containing perchlorate passed through the RASP; and (3) of 7,446 tons of ammunition returned from overseas to the Port of Los Angeles between January 1944 and June 1945, all damaged material was sent to the RASP to be "recoopered or destroyed." Ex. 20273, p. 2. The Regional Board concluded, based on review of all information available to it including the Corps Report, that "there is a more than adequate basis for suspicion that one or more releases of perchlorate salts could have occurred during the extensive operations that took place at the RASP site." Ex. 20273, p. 2. While the Regional Board itself has found that the United States military's activities at the RASP site are likely source of groundwater contamination in the Rialto area and that DOD has not complied with its directive, it has taken no action to enforce the RB Directive nor to address the RASP as a possible source of the alleged perchlorate and TCE contamination in its submission to the State Board.

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direct involvement in activities at the RASP site. While the Corps Report notes that Mr. Weyand "visited the RASP site as part of his responsibilities, the Corps Report does not clarify that he visited the RASP site just one time as a "courtesy call" to have lunch with the captain stationed there. Ex. 20271, pp. 28-29. Other than a few hours at the RASP site on that single occasion, Mr. Weyand was stationed at the Port of Los Angeles and therefore had no direct observation of the activities and practices at the RASP site. Also, the Corps Report itself notes that Mr. Weyand's recollection that less than ten percent of railcars passed through the RASP site en route to the Port is contradicted by the SOP for the RASP site, which specified that all munitions were to be routed to the RASP site before proceeding to the Port of Los Angeles. Ex. 20270, pp. 3-13. The SOP was prepared in October 1945 as operations were concluding, and therefore largely documented the activities at the RASP site. Ex. 20270, App. B, p. 1. In fact, the SOP actually describes the procedure in the past tense: "All ammunition and explosives shipped by [the Los Angeles Port of Embarkation] were routed through Rialto except in case of military necessity." Ex. 20270, App. B, p. 7. The prior version of the SOP, dated January 1, 1945, also provided that all ammunition would be routed through Rialto. Ex. 20270, App. B, p. 2 [of January 1 version]. The Corps Report also relies on Mr. Weyand's statement that unloading of railcars was not a common practice (Corps Report, Ex. 20270, pp. 3-13) despite the fact that Mr. Weyand was not present at the RASP site.

D. TCE Use and Disposal at the RASP Site

Evidence regarding the Army's activities at the RASP site indicates that its activities very likely resulted in the release of solvents such as TCE.

With over 8,000 railcars passing through the RASP site, and an onsite locomotive used to pull cars along tracks at the site, the Army's operations from 1942 to 1945 included extensive maintenance and repair of railcars and other military equipment. Ex. 20270, p. 3-16. The General Layout Plan for the RASP site documents that the improvements at the site included a locomotive shed, an oil house, a parts room, two storage houses, a railcar inspection pit, a sludge bed, an incinerator, and seven underground storage tanks. Ex. 20104. These facilities supported the Army's activities associated with railcar maintenance and repair.

Documents confirm that railcar and locomotive repair, maintenance, and associated activities occurred at the RASP site. For instance, in a report prepared for the month of April 1944, the Security Officer at the RASP described a "short circuit in the electrical system of 80 ton locomotive caused fire in one of the traction motors. Locomotive was tied up several days for repairs." Ex. 20269, p. 2 (Rialto Ammunition Back-up Storage Point, Historical Report for Month of April, 1944). A report prepared for April 1945 stated that "a spur has been added to the railroad track at the locomotive shed for storage of the 30 ton gas locomotive and tank car so that the tank car will be quickly available for use on any area fire." Ex. 20268, p. 2 (Rialto Ammunition Back-up Storage Point, Historical Report for Months of April to July, 1945).

Railcar maintenance and repair activities are frequently associated with soil and groundwater contamination. The U.S. Environmental Protection Agency has identified more than 120 sites of former railcar operations that have been or are on the CERCLIS list. Ex. 20258, pp. 1-2 (Hazardous Substance Research Center, Environmental Update #20). More specifically, maintenance areas at rail sites often involve use and improper disposal of solvents, such as TCE. *Id.* Railcar maintenance and repair typically includes the following activities involving the use of solvents: oil and grease removal, car and

equipment cleaning, rust removal, painting, and paint removal. *Id.* Locomotive maintenance has been identified as a specific activity that often leads to improper handling and disposal of spent solvents. Ex. 20259, pp. 2-3 (Fact Sheet from AIG Environmental).

The widespread use of TCE by the DOD has resulted in more than 1,000 military properties nationwide polluted by TCE. (*see, e.g.*, "How Environmentalists Lost the Battle Over TCE," *Los Angeles Times*, March 29, 2006.) Railcar and other maintenance activities at the RASP site would have involved the use of TCE. Contrary to the Regional Board's unsupported claim that TCE was not available until the early 1950s (*see* Advocacy Team Submission, p. 8), TCE use was widespread during the time that the Army operated at the RASP site (*i.e.*, beginning at least in the early 1940s) and historical documents indicate that, during World War II, the military was a priority recipient of supplies. As summarized in a comprehensive study on the history of TCE use:

> [In the early 1940s], TCE continued to be very widely accepted for metal degreasing, and it was reported to be rapidly replacing other solvents at this time (Byers 1943). ... During World War II, TCE saw significantly increased use in degreasing metal machinery parts (Lowenheim and Moran, 1975). Supplies of TCE and other solvents were controlled so that military demands could be met. Manufacturers of TCE during the war years included Dow, Du Pont and Westvaco Chlorine (United States Tariff Commission, 1941-1945). Ex. 20264, p. 4 (("A History of the Production and Use of Carbon Tetrachloride, Tetrachloroethylene, Trichloroethylene, and 1,1,1-Trichloroethane in the United States: Part 2—Tricholoroethylene and 1,1,1—Trichloroethane," Journal of Environmental Forensics (2000).

This summary is corroborated by the government documents from the time of the RASP. For example, a report prepared for the Chemical Division Requirements Committee identified a need for approximately 220,000,000 pounds of TCE. Ex. 20263, p. 3. Of this amount, about 203,000,000 pounds were for use in metals degreasing. (*Id.*) Also, a 1946 United States government report states that, at a single plant in West Virginia, production of TCE was as high as 4 million pounds per month. Ex. 20262, p. 2

("History of the Chemicals Bureau of the War Production Board").

In fact, the "production increase [of TCE] during the war was made necessary by the heavy demand for use of trichloroethylene as a metal degreasing agent." (*Id.*) During the closing months of the war, almost 100 percent of TCE was used for metal degreasing for direct and indirect military use. (*Id.*) A 1944 War Department Technical Bulletin, directed to "Ordnance Department field personnel," stated: "During maintenance operations, solvent, dry-cleaning, should be used for the general cleaning of all automotive, artillery, and other equipment parts which may be coated with oil or grease." Ex. 20261, p. 1 (Use of Solvent Dry Cleaning, TB 9-850-4). This document also stated that when solvent was not available through ordnance channels, "it should be purchased locally." (*Id.*) A 1944 Ordnance Supply Catalog, developed to aid Ordnance personnel to select and purchase "recommended and approved available materials" includes trichloroethylene. Ex. 20255, p. 20 (Army Service Forces Catalog ORD 5 SNL K-1).

In addition to the information on general use of TCE by the United States military during World War II, and resulting contamination, evidence exists that TCE would have been used at the RASP. For example, TCE was used at other Army installations nearby the RASP site during World War II. In deposition, Harold Augustin, stationed at Camp Anza in Riverside during World War II, testified that he worked in the ordnance shop cleaning small arms with TCE. Ex. 20254, p. 6 (Augustin Deposition). Mr. Augustin also stated under oath that TCE was readily available during World War II. *Id.* at p. 21.

Additionally, a July 1993 DERP-FUDS Inventory Project for the San Bernardino Engineer Depot, a site located within 10 miles of the RASP site that primarily operated during World War II, states: "U.S. Army used solvents in the railcar and tank degreasing operations. The grease and solvents were dumped into open pits thereby contaminating the soil and possibly the groundwater." Ex. 20260, p. 3 (Site Survey Summary Sheet for DERP-FUDS Site No. J09CA058400, San Bernardino Engineering Depot). Documents clearly show that not only did RASP conduct maintenance on its trains, but it had a sludge bed Ex. 20104 (General Layout Plan). Moreover, diagrams of the RASP clearly

show a maintenance yard. *Id.*

E. Perchlorate Use and Disposal at the RASP Site.

As concluded by the Regional Board, the RASP operations and substantial volume of materials passing through the site indicate a strong likelihood that perchlorate discharges occurred at the RASP site during the Army operations.

The RB Letter documents the fact that a significant percentage of the munitions handled at the RASP site contained perchlorate. Specifically, the RB Letter reports the following:

- Approximately 10,000 tons of military products containing perchlorate passed through the RASP site. Ex. 20273, p. 2.
- Products handled at the RASP site that contained perchlorate include: (1) 81 millimeter mortar projectiles (over 12% potassium perchlorate); (2) 22 millimeter cartridges (36 % potassium perchlorate); (3) 35 millimeter rockets (64% potassium perchlorate in the flash mix and 8% in the projectile); (4) 40 millimeter grenades (68% potassium perchlorate). Ex. 20273, p. 2.

A substantial volume of munitions were stored at the RASP site, and an important role of the RASP site personnel was to inspect these munitions. Ex. 20270, App. B, pp. 12-13. Among other purposes, inspection served to detect munitions, explosives and other materials that were damaged, off-spec, or otherwise unsuitable for shipment to the Port for use in the war. While the Corps Report states that no evidence was found of handling of damaged munitions at the RASP site (Corps Report, Ex. 20270, p. 3-11), the nature of the operations (storage, handling and inspection of munitions) strongly suggest that any munitions found to be unsuitable for shipment would likely have been disposed of at or near the RASP site. This is supported by information presented in the Corps Report, which includes the following excerpt from an October 1944 document titled "Report on Explosives Loading and Storage Facilities, Los Angeles Port of Embarkation":

> Recoopering is done between or around the igloos, one box at a time. Damaged material is destroyed out in the area. There is no designated burning ground. Small quantities have been burned in a

pit. However, this is now a target range. The 1944 Report is attached as Exhibit 20256.[100]

Not only is there historical evidence that damaged munitions were burned near the RASP site, but logistical issues also support the conclusion that disposal occurred on-site. First, given that the RASP site covered about 2800 acres, with only 740 developed with improvements, the Army had ample area (over 2000 acres) to dispose of munitions without running the risk of transporting such munitions to a distant location. This is in contrast to the situation at the Port of Los Angeles—where Mr. Weyand was stationed—which was located in an urbanized area with little or no open area to safely detonate or otherwise dispose of damaged munitions (hence Mr. Weyand's recollection of bomb disposal offshore). Further, the risk of transporting damaged munitions to distant locations would not be practical, as it would unnecessarily increase the risk of accidental detonation or explosion of such damaged munitions during transit. These factors (and the October 1944 Monthly History Report for the RASP site quoted above) indicate that burning of damaged munitions at the RASP site most likely occurred.

With over 10,000 tons of perchlorate-containing munitions stored at the RASP site during the Army's tenure, even a small rate of damaged munitions would have resulted in disposal of perchlorate. For example, a damaged munition rate of 1% would have led to disposal of about 100 tons of perchlorate-containing material in a three year period.

XIII. USE OF CHILEAN NITRATE FERTILIZER CANNOT BE DISREGARDED AS A SOURCE OF PERCHLORATE CONTAMINATION

Overwhelming evidence indicates that Chilean nitrate fertilizer used in citrus groves and other agricultural activities in the Rialto-Colton Basin is a source of the perchlorate found in many of the affected wells in the Rialto-Colton Basin. National,

[100] The Corps Report discounts this evidence of burning of munitions at the RASP site based on a statement by Mr. Weyand that any burning would have been limited to damaged wooden bracing material or dunnage, and that munitions would not have been burned at the RASP site. (Corps Report, Ex. 20270, p. 3-14.) Mr. Weyand's view appeared to be based largely, if not entirely, on his experience at the Port of Los Angeles and in Riverside (as he was never stationed at the RASP site). (Corps Report, Ex. 20270, p. 3-14.)

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state and local regulatory agencies, including the Regional Board, have acknowledged Chilean nitrate fertilizer as a source of perchlorate contamination. Yet in this instance, the Advocacy Staff has inexplicably ignored the historical use of Chilean nitrate fertilizers in the Rialto-Colton Basin as a source.

In its submission, the Advocacy Team mentions Rialto-area agricultural activities only once – in the second paragraph of the introduction, stating, "Aerial photographs from the 1930s show no evidence of agricultural uses of the Property, or adjacent areas hydrologically upgradient of the Property overlying the Rialto Groundwater Management Zone." Ad. Team P&As, 2. The Advocacy Team's conclusory dismissal of Rialto's agricultural history and Chilean nitrate fertilizer as a source of perchlorate contamination, however, is based upon a wholly inadequate investigation.

Historically, the Inland Empire, and Rialto in particular, was a hub of California's citrus growing industry. Kavanaugh Dec., ¶ 83. One need not go any further than downtown Rialto to see reminders of its proud citrus history. Ex. 20401. Despite having made public presentations to the Regional Board members and admitting under oath in deposition that the existence of historical citrus growing activities in Rialto and the accompanying use of Chilean nitrate fertilizer should be considered sources of perchlorate contamination, in their prosecution of this matter, the Advocacy Staff disregards the widespread existence of the citrus groves and other agricultural activity as sources of perchlorate contamination in the Rialto-Colton Basin. Holub Dep., 127:1-6, 128:24-129:9; Thibeault Dep. 76:23-77:16

Many of the Rialto-Colton Basin wells in which perchlorate has been detected are in very close proximity to or downgradient of historical citrus grove sites (Bennett Dec., ¶ 8, Ex. I), which are likely sources of the perchlorate detected in those wells. As documented below, during the early-to-mid 1900s, extraordinarily large quantities of Chilean nitrate fertilizer were applied to citrus groves located in and around the Rialto Groundwater Management Zone. Given the amount of Chilean nitrate fertilizer used in the Rialto area, and the amount of perchlorate therefrom that would have migrated to

groundwater through irrigation and agricultural wells and other conduits, the widespread, varying detections of perchlorate in a number of area wells can be attributed to the use of Chilean nitrate fertilizer.

A. The Advocacy Team's Disregarding of Chilean Nitrate Fertilizer is Unsupported and Contrary to the Evidence

The Advocacy Team contends that "Chilean nitrate does not appear to be a source of perchlorate at the 160-acre site," because although "the historical use of Chilean nitrate is a source of low concentrations of perchlorate that appear to be widespread in groundwater throughout the Inland Empire in areas where citrus groves existed," "citrus groves do not appear to have existed at or hydrologically upgradient of the Property." The Advocacy Team's position is flawed for two very important reasons: (1) whether or not Chilean nitrate is a "source of perchlorate at the 160-acre parcel" itself does not address the issue of whether it is a source of perchlorate at the wells throughout the basin; and (2) the statement that citrus groves did not exist "hydrologically upgradient of the Property" is empirically false. Bennett Dec., ¶¶ 8-10, Exs. I, J, K, N, O, P, Q, X, Z, AA, BB, CC, LL. In fact, the Advocacy Team is seeking to order Goodrich to provide replacement water for wells that are miles away from the 160-acre parcel, but in very close proximity to historical citrus groves and other agricultural sites.

The Advocacy Team has identified Robert Holub, Supervising Water Resource Control Engineer for the Regional Board, as the source of its opinion that Chilean nitrate fertilizer may be disregarded as a source of perchlorate in the Rialto Basin. However, in his April 9, 2007 deposition, Holub admitted that he has no personal knowledge of the amount of citrus growing activities that took place in early-to-mid-20th Century Rialto, and that he is not an expert in Chilean nitrate fertilizer, agriculture, or the distribution of fertilizers in agriculture. Holub Dep., pp. 809:21-811:13.

Moreover, in his deposition, Holub also revealed that his research into the historical use of Chilean nitrate fertilizer as a source of perchlorate contamination in the

Rialto-Colton Basin was extremely limited and that he had not considered several pieces of information which indicate that significant amounts of perchlorate were introduced to soil (and eventually the groundwater) in the Rialto-Colton Basin through the use of Chilean nitrate fertilizer. For example, Holub testified that: (a) he did not speak with any farmers or anyone who lived in Rialto during the early-to-mid-1900s regarding where Chilean fertilizer was used (Holub Dep. 811:2-6, 11-13); (b) he did not speak to anyone regarding the historical location of agricultural activities in the Rialto area (*Id.*, 811:7-10); (c) he has no idea how much Chilean nitrate was brought into the Rialto area since the 1920s (*Id.*, 817:5-13); (d) he does not know how many acres of agricultural activities would have used Chilean nitrate fertilizer in the Rialto-Colton basin (but estimates that it would have been "a few thousand") (*Id.*, pp. 822:22-823:8); (e) he has done no investigation into how many agricultural wells existed in Rialto, nor how many were properly closed (*Id.*, 823:15-24); and (f) he has done no investigation of other areas outside of the Inland Empire that used Chilean nitrate fertilizer and experienced similar perchlorate contamination in groundwater (*Id.*, 824:23-825:2).

In addition, Holub admitted that his opinion that "citrus groves do not appear to have existed at or hydrologically upgradient of the Property," is based on his review of only **one photograph**, taken in 1930. *Id.*, p. 828:21-831:10. Obviously, the mere fact that no citrus groves are visible in that lone photograph, which covers a fraction of the nine-mile Rialto Groundwater Management Zone, cannot conclusively rule out the existence of citrus groves hydrologically upgradient of the Property beyond the view of that photographer's camera lens. In fact, as discussed below, agricultural activities did exist hydrologically upgradient of the Property. Bennett Dec. ¶¶ 8, 10, Ex. I, J, K, N, O, P, Q, X, Z, AA, BB, CC, LL. Ultimately, the Advocacy Team has erred in disregarding Chilean nitrate fertilizer as a source of perchlorate contamination in the Rialto-Colton Basin.

B. Chilean Nitrate Fertilizer Used In Agricultural Activities Is A Known Source Of Perchlorate Groundwater Contamination.

1. Chilean Nitrate Fertilizer Contains Perchlorate

The raw product used in the production of nitrate fertilizers was commonly called Chilean nitrate, nitrate of soda, sodium nitrate, Chilean saltpeter, and/or soda nitre. Kavanaugh Dec. ¶ 79. Perchlorate occurs naturally in Chilean nitrate deposits and has been detected in fertilizer derived from those deposits. *Id.* Chilean nitrate fertilizers are derived from naturally-occurring caliche deposits that are mined from the Atacama Desert region of Chile. *Id.*

Fertilizers derived partially or completely from Chilean nitrates contain appreciable amounts of perchlorate. *Id.* The concentrations of perchlorate in Chilean nitrate have been reported to vary between 0.03 to 6.79% *Id.* It is conservatively estimated that the average perchlorate concentration of Chilean nitrate fertilizer is approximately 0.2%. *Id.*; Holub Dep., 821:17-23.

2. The Application of Fertilizer Makes it Very Susceptible to Causing Groundwater Contamination

The historical use of Chilean nitrate fertilizer is no longer disregarded by researchers as a source of perchlorate contamination and can not be categorically subordinated to the military or industrial operations as a potential source of perchlorate contamination in groundwater. Kavanaugh Dec. ¶ 81. Unlike most uses of perchlorate, the perchlorate-containing Chilean nitrate fertilizer is applied directly to the soil. Kavanaugh Dec., ¶ 81; Holub Dep., p. 818:10-12; Birdsall Dep. pp. 35:20-36:20, 38:19-39:5. The large quantities of irrigation water continuously applied over significant periods of time to citrus groves in the Rialto-Colton Basin provide a significant mechanism to transport perchlorate applied in Chilean nitrate fertilizers through the soil to groundwater. Kavanaugh Dec., ¶ 86; see also Holub Dep., 818:10-15 ("[I]n the later years when the irrigation practices progressed, I believe [Chilean nitrate fertilizer] was applied to the irrigation water itself.")

The existence of numerous, poorly constructed agricultural wells throughout areas where Chilean nitrate fertilizer has been applied could also result in perchlorate contamination from such fertilizers reaching the groundwater. Kavanaugh Dec., ¶ 85; Bennett Dec., Ex. E; Holub Dep., 824:5-9. This increases the likelihood that the perchlorate produced or imported as a component of Chilean nitrate fertilizer contributed to the pervasive presence of perchlorate in the basin groundwater.

3. The Regional Board and Other Agencies Have Recognized Chilean Nitrate Fertilizer as a Source of Perchlorate Groundwater Contamination

Federal, state and local regulatory agencies around the nation have recognized Chilean fertilizer as a potential source of perchlorate groundwater contamination. Kavanaugh Dec., ¶ 87. Moreover, members of the Advocacy Team themselves have acknowledged that Chilean fertilizer is responsible for widespread perchlorate contamination in the Santa Ana region.

On or about February 27, 2004, Gerard Thibeault, Executive Officer of the Regional Board, gave a presentation to the California Senate Select Committee on Perchlorate Contamination, in which he acknowledged that Chilean nitrate is a possible cause of widespread perchlorate contamination in the Inland Empire. *Id.*, ¶ 88. On March 12, 2004, in a presentation to the members of the Regional Board, Robert Holub also concluded that the "location of wells containing perchlorate correlate closely with historic citrus areas." *Id.* In his March 8, 2007 deposition, Holub testified that it is the Regional Board's belief that some sources of perchlorate contamination in the Santa Ana region come from the historical use of Chilean fertilizer. Holub Dep., p. 126:18-25, 127:1-6. Specifically, Holub testified that "Based on [his] research [his] opinion is that the -- many of the low concentrations of perchlorate that are found in wells in the Inland Empire likely resulted from the historical use of Chilean fertilizer on the citrus groves in those areas . . . It's been documented through analytical testing done by U.S. EPA and others that Chilean fertilizer contained low concentrations of -- of perchlorate salts, and the Chilean fertilizer was used as a fertilizer on citrus groves historically in the Inland

Empire." Holub Dep., pp. 128:24-129:9. Subsequently, in his March 14, 2007 deposition, Thibeault confirmed his same understanding and testified that where there have been historic citrus groves and there are low levels of perchlorate detected in the groundwater, the Regional Board's position is that such contamination is "probably related either to Chilean nitrate or Colorado River water." Thibeault Dep., pp. 76:23-77:16.

Other regulatory agencies within California have also acknowledged Chilean fertilizer as a possible or potential source of perchlorate contamination in groundwater. Kavanaugh Dec. ¶ 87. Likewise, federal agencies have done so as well. As early as June 1999, the U.S. Environmental Protection Agency (the "EPA") stated that "Chemical fertilizer also has been reported to be a potential source of perchlorate contamination." *Id.* In September 2005, the U.S. Department of Health and Human Services, Agency for Toxic Substances & Disease Registry wrote: "Perchlorate has been detected in fertilizers derived from Chilean caliche (citations). . . Fertilizer derived from Chilean saltpeter has been traditionally applied mainly to tobacco plants, but is also marketed for citrus fruits, cotton, and some vegetable crops (citations). Perchlorate containing fertilizers would result in the contamination of soil as a direct result of their intended use." *Id.* (emphasis added.)

C. The Historical Uses Of Chilean Fertilizer In The Rialto Area Explain The Presence Of Perchlorate In The Rialto-Colton Basin.

Given the widespread use of fertilizer in early-20th-century citrus growing activities, the amount of citrus farming that took place in the Rialto area, and the proximity of wells (agricultural, monitoring and production) to such agricultural activity, Chilean fertilizer is an obvious source of perchlorate contamination in the Rialto-Colton Basin's affected groundwater wells.

1. Chilean Fertilizer Was Widely Used in the Fruit Growing Industry Throughout the U.S. and California in the Early-to-mid 20th Century.

Chilean nitrate was one of the most common nitrate fertilizers in the U.S. during

the first half of the 20th century. It is believed that the world's first commercial nitrogen fertilizer was sodium nitrate mined from natural deposits in Chile. Adams Dec. ¶ 13. During the 1920s, sodium nitrate imports from Chile were a very important source of nitrogen in the United States with consumption amounting to about 600,000 tons annually. *Id.*, ¶ 14. Indeed, the numerous newspaper articles from agricultural publications, including the *California Citrograph,* and various advertisements regarding Chilean nitrate fertilizer was highly regarded as a source of nitrogen for crops and was in widespread use by citrus growers in early-20th century California and the Inland Empire, specifically. Ex. 20280.

The historical use of Chilean nitrate fertilizer has been reported for fruit trees in California, with an accepted fertilization rate between 100 and 200 pounds per acre as nitrogen. Kavanaugh Dec. ¶ 82. This translates to application rates ranging between 625 and 1250 pounds per acre of sodium nitrate (which is 16% nitrogen). *Id.* For simplicity, according to a widely accepted application rate of 1,000 pounds per acre per year of Chilean nitrate, 2 pounds of perchlorate per acre per year may have potentially been applied to fruit orchard soils throughout California. *Id.* Furthermore, between 1923 and 1960, 305,614 tons of Chilean Sodium Nitrate fertilizer were reported to have been used in California according to data compiled by the California Department of Food and Agriculture. *Id.* Assuming a perchlorate concentration of 0.2%, application of this mass of Chilean nitrate fertilizer would have resulted in the application of over 1.2 million pounds of perchlorate to agricultural soils/crops in California during this timeframe. *Id.*

2. Citrus Farming Was Widespread in the Rialto Area During the Early-to-mid-1900s.

The citrus fruit growing industry was an important part of life in early-to-mid-20th century Rialto. The Rialto area had extensive citrus groves, beginning in the late 1800s and increasing steadily through the early 1900s. Kavanaugh Dec., ¶ 83. These groves were fertilized, irrigated and cultivated regularly. *Id.*; Birdsall Dep., pp. 27:18-28:16; Adams Dec., ¶¶ 25, 26.

Rialto eventually emerged as an important citrus community. Kavanaugh Dec., ¶ 83. In 1917, the San Bernardino County office of the California Fruit Growers Exchange was established in Rialto because Rialto was considered to be the center of the citrus industry in the county. *Id.* Citrus was the hub of everything in Rialto in those days. *Id.* Most of the men worked for the citrus industry in some way. *Id.* Many of the women worked in the packing houses, washing, sorting, and packing fruit. *Id.* The citrus industry reached its peak in Rialto in the 1930s, with up to 10,000 acres of citrus crops planted. *Id.*; Bennett, ¶ 11.

3. Chilean Nitrate Fertilizer Was Commonly Used By Early Citrus Growers in the Rialto Area.

Eyewitness accounts confirm the actual use of Chilean fertilizer by Rialto-area citrus farmers as late as the 1950s. Birdsall Dep., 56:21-57:1. Roger Birdsall, the former Agricultural Commissioner for San Bernardino County, testified to his personal knowledge of the use of Chilean nitrate fertilizer by citrus growers in the Rialto area. *Id.*, pp. 56:21-57:1. Mr. Birdsall has lived in San Bernardino County since 1926, and moved to Rialto in 1949 when he became an agricultural inspector for the County of San Bernardino. *Id.*, 9:23-25, 10:3-4. He later became the Agricultural Commissioner for San Bernardino County. *Id.*, p. 11:20-22.

Early Rialto-area citrus growers, relying on the prevailing science at the time, liberally applied nitrates to their citrus groves in order to obtain the best crop production. This likely led to over-application and groundwater contamination. Adams Dec., ¶¶ 8, 9, 11, 12, 26. For instance, A. G. "Albert" Morgan, who owned and operated a 115-acre citrus grove at the time, was quoted in 1925 as saying that it was his custom to apply three to five pounds of Chilean nitrate fertilizer to each tree every year. *Id.*, ¶¶ 16, 24, Ex. A. A significant segment of the citrus farming community in Rialto would have followed the same practices of Mr. Morgan, the leading citrus grower in Rialto. *Id.*, ¶¶ 19 and 25; Birdsall Dep., pp. 44:7-8, 45:22-23.

Any calculation of the quantity of Chilean Nitrate fertilizer, and the perchlorate

contained therein, applied in the Rialto-area citrus groves is staggering. With Rialto farmers applying three to five pounds of Chilean nitrate fertilizer per tree per year with 100 citrus trees planted per acre, 300 to 500 pounds per acre per year of Chilean nitrate fertilizer would have been applied to soil in the Rialto area. Adams Dec. ¶¶ 16, 17, 25. By the 1930s, with an average application rate of 1,000 pounds per acre per year of Chilean nitrate fertilizer being applied to citrus groves in Rialto, 10 million pounds per year of Chilean nitrate fertilizer would have been applied to the soil. Kavanaugh Dec., ¶ 84. This amounts to 20,000 pounds per year of perchlorate being applied directly to the soil in the Rialto-area. Even if the Rialto-area citrus growers' use of Chilean nitrate fertilizer during the 1930s was 30% to 50% of this average application rate, as reported by Al Morgan in 1925 Adams Dec., ¶ 16., 6,000 to 10,000 pounds of perchlorate would still have been applied directly to the soil in the Rialto-area each year. Again, these numbers cannot be ignored.

4. Vast Quantities of Widespread Irrigation Caused Perchlorate to Reach Groundwater in the Basin.

Agricultural activities invariably require the use of significant amounts of water. Kavanaugh Dec. ¶ 85. The large quantities of irrigation water applied to citrus groves in the Rialto-Colton Basin provided a significant mechanism to transport perchlorate applied in Chilean nitrate fertilizers from soil to groundwater. Kavanaugh Dec. ¶ 85. Indeed, the Advocacy Team Submission states: "Once applied to soil, perchlorate will be readily transported to groundwater with any water that percolates into the soil (e.g. precipitation) and travels to groundwater. This transport would be accelerated by application of any additional water, such as through discharge of septic tank effluent, fire suppression water and wash water." Ad. Team P&As, p. 10. Yet, in its submission, the Advocacy Team ignores the fact that Chilean nitrate fertilizer used in the Rialto area would have been applied directly to the soil and then washed into groundwater through the application of irrigation and crop watering.

Moreover, as discussed above, and as acknowledged by the Regional Board,

whenever wells are located in close proximity to historic citrus groves, perchlorate contamination found therein is "probably related" to Chilean nitrate fertilizer. Thibeault Dep., 76:23-77:16. The many wells in the Rialto-Colton Basin have likely acted as a super-conduit, transporting perchlorate from the nearby and surrounding agricultural activities that reached them directly into the groundwater. Holub Dep., p. 824:5-9.

5. Historical Agricultural Activities Are Located In Very Close Proximity to Wells Throughout the Area Overlying the Rialto Groundwater Management Zone.

The Advocacy Team incorrectly implies that no agricultural activities were near enough to the 160-acre Parcel to have caused any of the perchlorate contamination detected throughout the basin.[101] Amazingly, while it shrugs off levels of perchlorate found in PW-1 immediately upgradient of the 160-acre parcel as being "negligible," for wells many miles away with similar levels of perchlorate, it is seeking to order Goodrich to provide water replacement. Further, the Advocacy Team conveniently neglects to address the widespread agricultural activity throughout Rialto-Colton Basin located between the 160-acre Parcel and many of the alleged wells at issue. Bennett Dec., Ex. I. However, aerial photographs taken between 1930 and 1986, show orchards very close to, and even up-gradient of, the 160-acre Parcel. Kavanaugh Dec., ¶ 85; Bennett Dec., ¶¶ 8, 10, Exs. I, J, K, N, O, P, Q, X, Z, AA, BB, CC, LL. Exhibit J to the Bennett Dec., an aerial photograph taken in 1930, shows orchards approximately 2.14 miles to the northwest of the 160-acre Parcel. Bennett Dec., ¶ 10, Ex. J. Exhibit J shows orchards located directly to the East of the 160-acre Parcel, less than two-thirds of a mile away. *Id.*, ¶ 11. In addition, Exhibit J shows several orchards to the immediate south of the 160-acre Parcel, a little more than half a mile away. *Id.*, ¶ 11.

More importantly, historical aerial photographs show the widespread presence of orchards throughout the Rialto-Colton Basin. *Id.*, ¶ 11, Ex. I. These photographs show

[101] Page two of the Water Board Submission states, "Aerial photographs from the 1930s show no evidence of agricultural uses of the Property, or adjacent areas, or any areas hydrologically upgradient of the Property overlying the Rialto Groundwater Management Zone."

that the Rialto-Colton Basin was inundated with agricultural activities. *Id.* As one would expect with agricultural operations, water wells throughout the Rialto-Colton Basin are in very close proximity to the sites of historical citrus groves they served. Kavanaugh Dec., ¶ 85; Birdsall Dep. pp. 19:23-20:6; Bennett Dec., ¶¶ 8, 11, Exs. E, I. In fact, the vast majority of wells in the Rialto Groundwater Management Zone, are within half a mile of historical agricultural sites. Bennett Dec., ¶ 11; Exs. E, I.

Given the large amount of Chilean nitrate fertilizer used in the early-to-mid 20th century citrus growing activities, the amount of citrus farming and associated irrigation that took place in the Rialto area, and the proximity of wells of such agricultural activity, the historical use of Chilean nitrate fertilizer is an obvious source of the perchlorate contamination found in many of the wells through the Rialto-Colton Basin. The Advocacy Team's disregarding of Chilean nitrate fertilizer is unsupported and contrary to the evidence.

XIV. LEGAL ARGUMENTS

A. The Advocacy Team Bears The Burden Of Proof And Must Prove Its Case By A Preponderance Of The Evidence

The Advocacy Team bears the burden of proof and must prove its case by a preponderance of the evidence (*i.e.*, the "weight of the evidence"). It clearly has not done so.

The Hearing Officer has professed that this matter is purportedly being heard pursuant to the State Board's own motion under Water Code Section 13320.[102] Any cleanup and abatement order ultimately issued by the State Board will be subject to judicial review pursuant to Water Code Section 13330. Water Code Section 13330(d)

[102] *See* Section 13320(a) ("The state board may, on its own motion, at any time, review the regional board's action or failure to act . . ."). The Notice of Public Hearing, Revised Notice of Public Hearing, and Second Revised Notice of Public Hearing all provide:

> The 2005 CAO and proposed amendments are the subject of challenges in petitions filed by various entities named as responsible parties. In light of the various objections and appeals, and then need to take action in an expeditious manner, the State Water Resources Control Board will review this matter on *its own motion*. (emphasis added.)

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provides:

> [e]xcept as otherwise provided herein, Section 1094.5 of the Code of Civil Procedure shall govern proceedings for which petitions are filed pursuant to this section. For the purposes of subdivision (c) of Section 1094.5 of the Code of Civil Procedure, the court *shall exercise its independent judgment on the evidence in any case involving the judicial review of a decision or order of the state board issued under Section 13320*, or a decision or order of a regional board for which the state board denies review under Section 13320, other than a decision or order issued under Section 13323.

(emphasis added). Under Code of Civil Procedure Section 1094.5(c), "independent judgment" is defined:

> "[w]here it is claimed that the findings are not supported by the evidence, in cases in which the court is authorized by law to exercise its independent judgment on the evidence, *abuse of discretion is established if the court determines that the findings are not supported by the weight of the evidence*" (emphasis added).

Thus, the weight of the evidence must support the Advocacy's Team's case; in other words, the Advocacy Team must prove its case by a preponderance of the evidence. *Kapelus v. State Bar*, 44 Cal. 3d 179, 206, fn. 10 (1987) (equating the "weight of the evidence" standard with the preponderance standard). Because any order ultimately issued by the State Board based on this proceeding would be issued pursuant to Section 13320, should this matter be brought before the Superior Court, it will find an abuse of discretion by the Regional Board if the findings are not supported by the weight of the evidence. *Strumsky v. San Diego County Employees Retirement Association,* 11 Cal. 3d 28, 32 (1974).

B. Goodrich is not Liable Under Cal. Water Code Section 13304

The Advocacy Team's Memorandum of Points and Authorities and the Proposed Amended Cleanup and Abatement Order sets forth an incorrect standard of liability with respect to Goodrich's operations, and fails to demonstrate with credible evidence that Goodrich is liable under any standard of liability. In its charging papers, the 2006 Draft CAO, the Advocacy Team improperly seeks to hold Goodrich liable under the existing provisions of Section 13304, brushing over any allegation that Goodrich violated laws at the time of its operations, which occurred prior to the enactment of and subsequent

amendments to the Porter-Cologne Water Quality Control Act (the "Porter-Cologne Act"), Water Code Sections 13000, *et seq.*[103]

It is not until its Points and Authorities, does the Advocacy Team belatedly address the prospect of enforcing its CAO against parties that ceased operations long before the advent of the Porter-Cologne Act. This is too little too late. In particular, the Advocacy Team asserts that the alleged discharges were a violation of the Dickey Water Pollution Act (Stats. 1949, ch. 1549). Rather than providing any evidentiary support for its claim, the Advocacy Team merely cites a few State Board decisions, which are not only inapposite as a matter of law, but do nothing to prove a case against Goodrich. In proving a case against Goodrich, the Advocacy Team must persuasively and transparently apply law to the facts. At a minimum, the Advocacy Team must cite *which* law Goodrich allegedly broke, and usher forth facts which meet the burden of proof. The Advocacy Team not only falls short of this standard, but also affirms that Goodrich complied with the laws in effect at the time.

Goodrich is not and cannot be held liable under California Water Code Section 13304 enacted decades after its operations ended in Rialto.[104] First, Section 13304 is not retroactive and cannot be applied to actions that occurred during the alleged timeframe of Goodrich's operations from 1957 to 1964, which preceded its original operative date of January 1, 1970. Second, subsequent modifications to Section 13304, in 1980, established, albeit inartfully, that no new liability was created for actions prior to the modification. Third, prior to the 1980 amendments, Section 13304 expressly required proof of intentional or negligent discharges, which has neither been

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[103] As a threshold matter, it is an open legal question whether the Regional Board or State Board can in fact legally prosecute Goodrich under *any* state statute. As discussed above (Section III), Goodrich's use of a burn pit at Rialto was mandated by numerous military Ordnance Manuals and Technical Orders that were issued pursuant to federal law by military commanders authorized to publish such regulations. As discussed below (Section XV), Goodrich's compliance with such military directives shields it from prosecution under state law.

[104] All statutory references in this section are to the California Water Code, unless otherwise stated.

alleged nor proven in this matter. Fourth, the Regional Board has failed to prove Goodrich is liable even under the current version of the Water Code, as it has failed to demonstrate that Goodrich has caused or permitted, or threatens to cause or permit, any waste to be discharged or deposited *where it is, or probably will be discharged into the waters of the state* ***and*** *creates, or threatens to create, a condition of pollution or nuisance*. Water Code Section 13304(a).

1. The Advocacy Team Has Violated The Hearing Notice And Cannot Deviate From Its Charging Papers

The Notice of Public Hearing issued February 23, 2007, required the Advocacy Team to notify the State Board and the parties by February 27, 2007, as to whether the 2006 Draft CAO constituted the pleadings on which the Advocacy Team intended to base its case-in-chief or whether it intended to rely on a different document as its pleading. On February 27, 2007, the Advocacy Team provided notice confirming that it intended to use the 2006 Draft CAO as its pleading.

Nowhere in the 2006 Draft CAO does it allege that Goodrich, which it alleges operated from 1957 to 1964, is liable under any statutes other than the present versions of Water Code Sections 13304 and 13267. Only in its Points and Authorities, in a section addressing another party, does the Advocacy Team first allege that "discharges [which] occurred long before the present version of the Water Code was adopted" are actionable, claiming "discharges that were in violation of the Dickey Act, continue to be a violation of California law." Ad. Team P&As, page 10. Yet despite, these passing allegations, the Advocacy Staff's charging papers never allege a violation of the Dickey Act, never articulate the elements of liability under the Dickey Act, never proffer any evidence that demonstrates Goodrich is liable under the Dickey Act, and never explain how it authorizes the Regional Board to issue a CAO under the existing provisions of Water Code against Goodrich.

The Advocacy Staff cannot now go outside of its pleading and seek to prove a violation of the Dickey Act. The Advocacy Team had ample opportunity to amend its

allegations and did not do so. Accordingly, any attempt by the Advocacy Team to either prove a violation of the Dickey Act or enforce it, should be disregarded and stricken. *See FPI Development, Inc. v. Nakashima*, 231 Cal. App. 3d 367, 382 (1991).[105] As explained below, the Draft CAO cannot be adopted as the State Board is not authorized as a matter of law to issue orders under Water Code Sections 13304 and 13267 concerning discharges that predate the Porter-Cologne Act.

2. The Original Section 13304 and Its Successive Amendments Are Not Retroactive and Goodrich's Acts Were Legal At The Time They Occurred

California Water Code Section 13304 expressly provides that it is not retroactive and was not initially, nor ever subsequently, written or intended to have application to any acts before it was passed. This interpretation is consistent with decades of case law from the United States' and California's highest courts, and buttressed by ample evidence of the Legislature's—and even the State Board's—intent. The Advocacy Team tellingly fails to allege or brief this issue.

Even if the State Board were to improperly permit such a claim and erroneously interpret the statute as having retroactive application, the burden is still on the Advocacy Team to prove that Goodrich's actions were contrary to law *at the time they occurred.* The Advocacy Team has not met and cannot meet this burden because Goodrich's actions complied with applicable law at the time of its operations.

a. Section 13304 is Not Retroactive

Neither the Advocacy Team nor the State Water Board have jurisdiction to prosecute or adjudge Goodrich in this matter because the statute sought to be enforced, California Water Code Section 13304, does not retroactively apply to actions or discharges that occurred prior to its enactment. Water Code Section 13304 became

[105] In *FPI Development, Inc. v. Nakashima*, the Court of Appeal chastised the parties for using its pleadings "as a ticket to the courtroom which may be discarded after admission." 231 Cal. App. 3d at 382. Similarly, the Advocacy Team does not appear confined by its pleading, as it raises new allegations of legal violations in its Points and Authorities.

operative on January 1, 1970.[106] "[T]he first rule of statutory construction is that legislation must be considered as addressed to the future, not to the past...." *Evangelatos v. Superior Court*, 44 Cal. 3d 1188, 1207 (1988). Statutes are not to be given retroactive effect absent a very clear indication that the legislature intended otherwise. *Evangelatos v. Superior Court*, 44 Cal. 3d at 1207; *See also Californians for Disability Rights v. Mervyn's, LLC*, 39 Cal. 4th 223, 230 (2006); *Elsner v. Uveges*, 34 Cal. 4th 915, 936 (2004) (*Elsner*); *Myers v. Philip Morris Companies, Inc.*, 28 Cal. 4th 828, 840 (2002) (*Myers*); *Tapia v. Superior Court*, 53 Cal. 3d 282, 287 (1991) (*Tapia*); *Aetna Cas. & Surety Co. v. Ind. Acc. Com.*, 30 Cal. 2d 388, 393 (1947) (*Aetna*); *Jones v. Union Oil Co.*, 218 Cal. 775, 777 (1933); *In re Cate*, 207 Cal. 443, 448 (1929); *Pignaz v. Burnett*, 119 Cal. 157, 168 (1897).

The presumption that a statute is not retroactive is one of the strongest, oldest, and most unbending principles of statutory construction that exist, and has survived since this country's very first statutes were enacted. *See, e.g., United States Fidelity & Guaranty Co. v. Struthers Wells Co.*, 209 U.S. 306, 314 (1908) ("The presumption is

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[106] When originally enacted, Section 13304 read as follows:

> (a) Any person who discharges waste into the waters of this state in violation of any waste discharge requirement or other order issued by a regional board, or who intentionally or negligently causes or permits any waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, shall upon order of the regional board clean up such waste or abate the effects thereof. Upon failure of any person to comply with such cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring such person to comply therewith. In any such suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.
>
> (b) If such waste is cleaned up or the effects thereof abated by any governmental agency after issuance of a regional board cleanup or abatement order, such person shall be liable to that governmental agency to the extent of the reasonable costs actually incurred in cleaning up such waste or abating the effects thereof. The amount of such costs shall be recoverable in a civil action by, and paid to, such governmental agency and the state board to the extent of the latter's contribution to the cleanup costs from the State Water Pollution Cleanup and Abatement Account.

Ann. Cal. Water Code § 13304 (West 2007).

very strong that a statute was not meant to act retrospectively, and it ought never to receive such a construction if it is susceptible of any other."); *United States v. The Peggy*, 5 U.S. (1 Cranch) 103, 110 (1801). Beyond judge-made law, this principle has been codified in various California statutes for over a hundred years. *See, e.g.,* Cal. Code Civ. Proc., §3; Cal. Pen. Code §3; Cal. Civ. Code §3. California courts apply the same principles concerning retroactivity as the U.S. Supreme Court. *Evangelatos*, 44 Cal. 3d at 1209. As the U.S. Supreme Court has held:

> The principle that statutes operate only prospectively, while judicial decisions operate retrospectively, is familiar to every law student. [Citations] This Court has often pointed out that the first rule of construction is that legislation must be considered as addressed to the future, not to the past.... The rule has been expressed in varying degrees of strength but always of one import, that a retrospective operation will not be given to a statute which interferes with antecedent rights ... unless such be "the unequivocal and inflexible import of the terms, and the manifest intention of the legislature." [Citations.]

United States v. Security Industrial Bank (1982), 459 U.S. 70, 79.

In fact, "a statute that is ambiguous with respect to retroactive application is construed...to be unambiguously prospective." *Myers*, 28 Cal. 4th at 841, citing *INS v. St. Cyr*, 533 U.S. 320-321, fn. 45 (2001) and *Lindh v Murphy*, 521 U.S. 320, 328, fn. 4 (1997). *Thus, if the statute has* ***any*** *ambiguities as to its retroactive application, it must be construed as prospective only.*[107]

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[107] This high standard is justified because the presumption against retroactive application is grounded in constitutional concerns:

> "In a free, dynamic society, creativity in both commercial and artistic endeavors is fostered by a rule of law that gives people confidence about the legal consequences of their actions. [¶] It is therefore not surprising that the antiretroactivity principle finds expression in several provisions of our Constitution. The *Ex Post Facto* Clause flatly prohibits retroactive application of penal legislation.... The Fifth Amendment's Takings Clause[, and] [t]he Due Process Clause also protect[] the interests in fair notice and repose that may be compromised by retroactive legislation; a justification sufficient to validate a statute's *prospective* application under the [Due Process] Clause 'may not suffice' to warrant its *retroactive* application."

Myers, 28 Cal. 4th at 841, citing *Landgraf v. USI Film Products*, 511 U.S. 244, 265-266 (1994) and *St. Cyr*, 533 U.S. at 316 (emphasis added). When retroactive application of a statute would impose huge costs, as is the case here, these constitutional concerns speak even more forcefully. *Myers*, 28 Cal. 4th 828, 845-846. In *Myers v. Philip Morris*,